DOCUMENT RESUME

ED 264 978 PS 015 591

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TITLE Training Family Day Care Providers to Use Behavior Modification Procedures: A Case Study.
PUB DATE [83]
NOTE 13p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Behavior Modification; *Behavior Problems; Case Studies; *Child Caregivers; Early Childhood Education; Family Day Care; Home Programs; *Mothers; *Timeout; *Young Children
IDENTIFIERS *Biting

ABSTRACT

Effects of brief time out on the biting behavior of a 21- month-old boy enrolled in a day care setting was examined. The Motivation Assessment Scale (MAS; Durand, 1983) was used to determine the function of the child's biting. A parent report survey, the MAS assesses disruptive behavior using a Likert-type scale and discriminates the function of a target behavior into one of four categories: self-stimulation, escape-avoidance, social approval, and access to preferred reinforcers. Results of the MAS indicated that biting served the function of gaining access to adult attention; in this child's case, verbal attention from both mother and day care provider. Treatment consisted of time out used contingently with instances of or attempts at biting others. When the treatment program was initiated in the day care home, the incidence of biting decreased to an average of .6 for the first week, .4 for the second week, and to 0 by week seven. When treatment was implemented at home, the decline in biting was initially less dramatic, due to the mother's incomplete implementation of the time out intervention. A correction to the same procedure used in the day care home led to an immediate reduction in biting at home to .1 per week at week six and the disappearance of biting 2 weeks later. In both settings, biting was absent at 9- and 10-week follow-ups. (RH)

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Training Family Day Care providers to use behavior modification procedures: A case study

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Running head: Brief Time Out

Training Family Day Care providers to use behavior modification procedures: A case study

Applied behavior analysis procedures have gained popularity in recent years for modifying deviant child behavior. Various procedures including reinforcement for appropriate behavior (MacReynolds, 1969), extinction (O'Leary & Becker, 1969), overcorrection (Foxx & Azrin, 1973), and time-out (Zeilberger, Sampen & Sloan, 1968), have been described in the literature. All have various advantages and dis-advantages which have been described in detail elsewhere (Sulzer-Azaroff & Mayer, 1977).

Modifying the behavior of the developmentally young child (either by reason of chronological or mental age) demands consideration of developmental factors in treatment planning. Thus, the very young child would benefit less from extensive verbal interchanges of an abstract nature (e.g., focusing on "badness" or "goodness"), and more from consistent, clear, and concrete responses to behavior. With regard to the duration of behavior reduction interventions, evidence for brief periods of punishment has been presented (Zimmerman & Baydan, 1963).

The present study examined the effect of brief time out on the biting behavior of a 21 month old boy enrolled in a day care setting. Time out was chosen over other equally viable behavior management techniques because 1) it was acceptable to the provider's and parents' prevailing norms for child management, 2) the target behavior was at a level which warranted immediate attention, and 3) it was not felt that sufficient safeguards, training, and consultation would be available to justify teaching the day care provider a more aversive punishment technique.

Method

Subject

Mark L., a 21 month old non-handicapped caucasian male, attended day care through a Family Day Care program for 8.5 hours per day. Mark is one of two children (Timothy, age 7) who reside at home with their mother, Mrs. L. Consultation was requrested by Family Day Care staff because Mark had begun to bite the child (age 28 months) of the day care provider. The provider was considering terminating care of Mark because of his biting. Further investigation revealed that Mark was also biting his older brother several times per week at home, and that Mrs. L. had not been successful in reducing the biting.

Experimenters

The treatment program was carried out by the day care provider for that period of time (8 hours per day) when Mark was in her care. Mark's mother carried out the intervention at home in the evenings. Both adults were supervised and trained by the author.

Setting and Design

The study was conducted in the homes of the day care provider and Mrs. L. Both homes were large two-four bedroom apartments. The time out setting was a corner in the kitchen of the day care provider's house, and due to space constraints in his kitchen at home, his high chair placed in the dining room at home.

A multiple baseline design was used. After the behavioral assessment and baseline was conducted on the target behavior, the intervention was implemented in the day care home by the provider. Mrs. L. continued to collect baseline data at home at this point. Once Mark's biting was reduced to acceptable levels in the day care home, the intervention was implemented by Mrs. L. at home for the remainder of Mark's day.

Behavioral Assessment

Biting was operationally defined as Mark bringing his teeth into contact with another child or adult, or attempting to bring his teeth into contact with another child or adult. Attempts are defined as those instances where Mark approaches another person with his mouth open and is within five inches of a body part.

The Motivation Assessment Scale (MAS; Durand, 1983) was used to determine the function of Mark's biting. This parent report survey assesses disruptive behavior using a Likert-type scale and discriminates the funtion of a target behavior into one of four categories: self-stimulation, escape-avoidance, social approval, access to preferred reinforcers. The reliability and validity of the MAS have been reported elsewhere (Durand & Crimmins, 1983). The results of the MAS indicated that biting served the function of gaining access to adult attention; in Mark's case, this was verbal attention from both mother and day care provider.

Treatment

The treatment consisted of time out used contingently with instances (or attempts) of biting others. Contingent upon an instance of biting, the adult would bend down and establish eye contact with Mark and say in a neutral voice, "no biting." Mark was then led to the corner in the kitchen where he was required to stand, facing into the corner, for two minutes of quiet. When Mark tantrummed, bit, or tried to leave the corner during this two minute interval, the interval was reset. Upon leaving, Mark was told in a neutral voice, "you can go back and play nicely now." No other verbal interactions between child and adult occurred during the intervention sequence.

Training

Both day care provider and mother were trained in the treatment procedure by the author using participant modeling, live supervision, and corrective feedback. These training sessions took place over two one-hour sessions in the provider's home. Treatment was not begun until both provider and parent had demonstrated proficiency in the procedure.

Recording and Reliability

A frequency count was obtained for biting for each day the study was in progress. Daily frequency counts were obtained at home by Mark's mother, and in day care by the provider.

Reliability assessments were obtained only for biting which occurred in the day care home. This was the case because the author's working hours did not coincide with Mrs. L.'s available time at home. Reliability assessments were taken by the author for one randomly determined 30 minute segment each week. Reliability measures were calculated by the agree/disagree method. Thus, the number of agreements between provider and observer were divided by the number of agreements plus the number of disagreements. This number was then multiplied by 100 to provide a reliability coefficient.

RESULTS

The effects of brief time out on the biting behavior of a 21 month old child are described in Figure 1. Mark's baseline rate of biting at home and at the day care home averaged 1.9 and 1.8 bites per day, respectively (range: 0-4). WHen the treatment program was initiated in the day care home, the incidence of biting decreased to an average of .6 for the first week, .4 for the second week, and to zero by week seven. During week four, rate of biting returned to pre-treatment levels due to one particularly bad day when the provider had to care for six children in her home due

to a school closing. A rapid decline occurred the following week, and the behavior disappeared and has remained absent at nine and ten week follow-ups.

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Insert Figure 1 about here

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When treatment was implemented at home, the decline in biting was intially less dramatic. During week five a follow-up call to Mrs. L. uncovered her practice (due to misunderstanding) of letting Mark leave the corner after two minutes even if he was in the midst of a tantrum. A correction to the same procedure used in the day care home led to an immediate reduction in biting at home (to .1 per week) and the disappearance of biting two weeks later. Biting at home was still absent at nine and ten week follow-ups. Table 1 describes the mean daily averages for biting at home and in the day care home, collapsed into weekly averages.

Inter-rater reliability was 1.0 for each of 7 reliability sessions.

DISCUSSION

Results of this study suggest that brief time out can successfully reduce the aggressive behavior of very young children. In addition, the data indicates a functional relationship between aggressive biting and the presence or absence of adult attention. Because the child in this study had a very limited functional verbal repertoire (limited to "mama," "daddy" and an approximation of "bottle"), his aggressive behavior may well have served a communicative function (Carr & Durand, 1984). As such, aggressive behavior functioned communicatively as "I want more attention." By responding, albeit negatively, to this child whenever he bit, the communicative function was fulfilled. Because Mark preferred negative attention (scolding for biting) to no attention, biting did not decrease with the "standard" parental response. Moreover, Mark;s rapid decline in biting when adult attention was systematically withheld for biting offers further evidence of the attention-seeking function of this behavior. Coupled with both Mark's mother and the day care provider's informally increased verbal approval for playing appropriately with the other children, a contrast effect was provided for Mark, facilitating discrimination of acceptable and unacceptable behavior.

The procedures employed in this study differ from those typically used by parents of very young children only in conscientiousness of appilcation. Frequently, young children are sent to their room, or made to stand in a corner, or sit in a chair for misbehavior. The intended effect is to remove the child from the enjoyable activity because he/she was not able to behave appropriately. The present procedure differs only in requiring parents/providers to be systematic and planful by 1) choosing a consistent place for time-out, 2) catch every instance of the misbehavior, 3) withholding verbal attention during a consequation, and 4) scheduled a <u>brief</u> period

of time out so the child quickly regains the opportunity to re-enter the problem situation and act appropriately - for which he/she is reinforced by the adult attention originally sought. Thus, the present program sought to increase the efficiency of commonly-employed behavior reduction procedures through systematic application of those procedures.

These results further suggest that day care providers can made effective use of behavior management techniques with modest training and on-going supervision. While the vast majority of child clients present little problem to providers, some exhibit unacceptable or even dangerous behavior which jeapordize their placement with the provider. By providing day care providers with consultation in these and similar behavior management procedures, client service is maintained and the skill level of providers is enhanced.

The present study demonstrated the effectiveness of a brief time out in reducing the biting behavior of a 21 month old child using a consultation model of service delivery. Further research is needed to determine the cost-effectiveness of the problem-oriented consultation model used vs. a more didactic "provider training" model.

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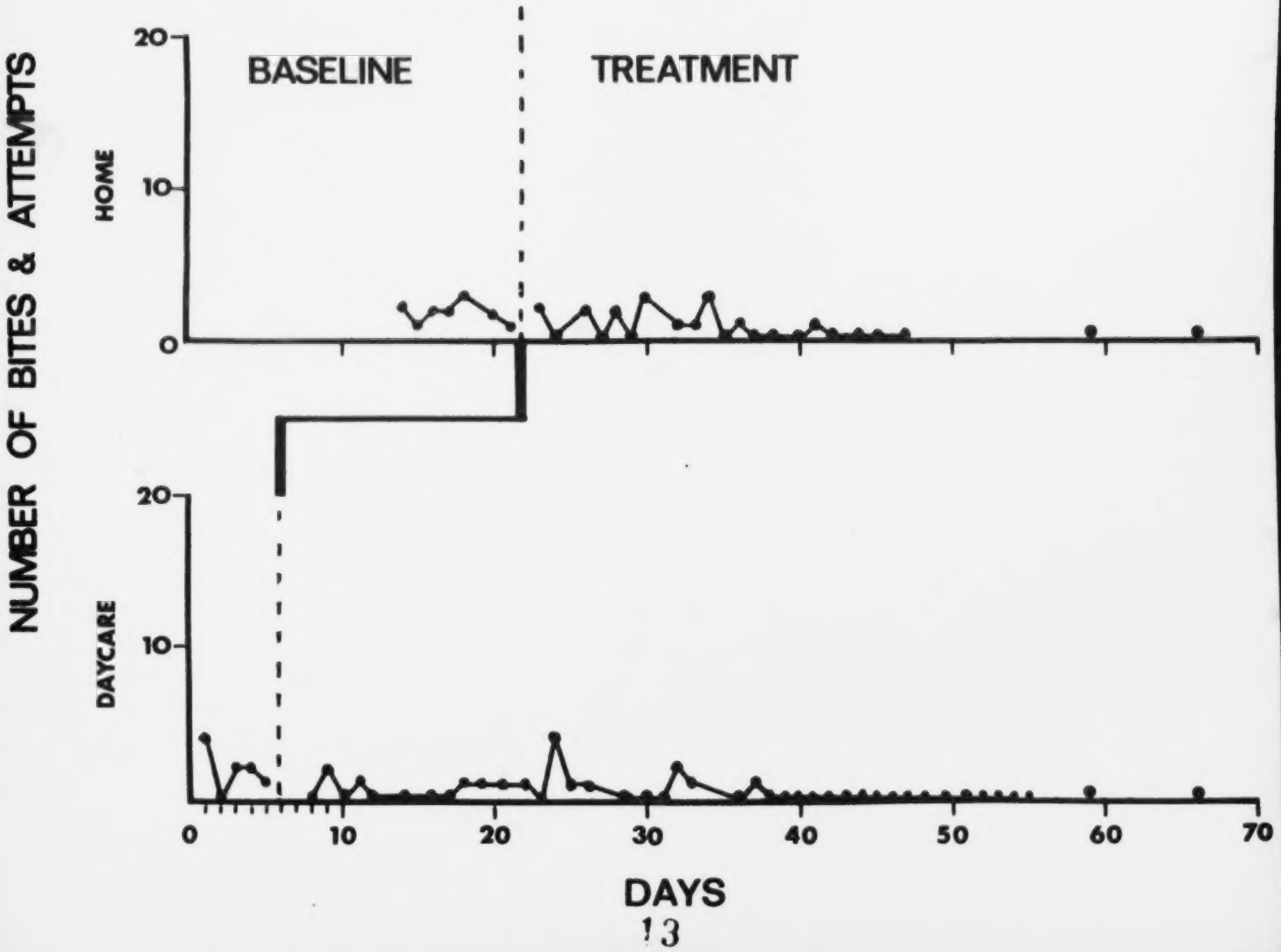
Footnote

The assistance and support of Carol Parker, Child and Family Services, Hartford, Connecticut, is gratefully acknowledged. Thomas Lipscomb, Ph.D., made a number of useful comments on an earlier draft of this paper. Requests for reprints should be addressed to Dr. Michael Powers, Georgetown University School of Medicine, CG-52 Bles Bldg., 3800 Reservoir Road, NW, Washington, DC 20007

TABLE 1

Average bites per week
(daily data collapsed into weekly averages)

WEEK	DAY CARE	HOME
1	1.8	No data
2	0.6	No data
3	0.4	1.9
4	1.4	1.0
5	0.6	1.6
6	0.2	0.1
7	0.0	0.1
8	0.0	0.0
Follow-up 9	0.0	0.0
Follow-up 10	0.0	0.0


NUMBER OF BITES & ATTEMPTS
BASELINE
TREATMENT
HOME
DAYCARE
20
10
0
20
10
0
10
20
30
40
50
60
70
DAYS